Contents of Vol. 124

Part 1

SEM/STEM/Microanalysis—Materials

Introduction 1

I. P. Jones and M. H. Loretto. Some aspects of quantitative STEM X-ray microanalysis 3

S. J. Pennycook. Study of supported ruthenium catalysts by STEM 15

R. A. Ricks, P. D. Southwick and P. R. Howell. The effect of chromium and nickel on the $\gamma \rightleftharpoons \alpha$ phase transformation in steels and iron-base alloys 23

David C. Joy and Dennis M. Maher. The quantitation of electron energy loss spectra 37

A. J. Bourdillon, N. W. Jepps, W. M. Stobbs and O. L. Krivanek. An application of EELS in the examination of inclusions and grain boundaries of a SiC ceramic 49

M. D. Ball and D. G. McCartney. The measurement of atomic number and composition in an SEM using backscattered detectors 57

M. G. Hall and G. K. Skinner. Use of a multichannel pulse height analyser for the analysis of back-scattered SEM images 69

S. G. Roberts and T. F. Page. A microcomputer-based system for stereogrammetric analysis 77

E. R. Buckle and P. Tsakiropoulos. Evaporation behaviour of metallic aerosol condensates 89

D. Jones, M. J. Wilson and W. J. McHardy. Lichen weathering of rock-forming minerals: application of scanning electron microscopy and microprobe analysis 95

Book Reviews 105

Part 2

C. J. R. Sheppard and T. Wilson. The theory of the direct-view confocal microscope 107

N. R. Comins and J. T. Thirlwall. Quantitative studies and theoretical analysis of the performance of the scintillation electron-detector 119

Thomas F. Robinson, Barbara S. Hayward, John W. Krueger, Edmund H. Sonnenblick and Beatrice A. Wittenberg. Isolated heart myocytes: ultrastructural case study technique 135

A. W. Robards, A. J. Wilson and P. Crosby. Specimen heating during sputter-coating 143

Steen E. L. Kristensen and John M. Papadimitriou. The measurement of cell volume and surface area by SEM photogrammetry 155

A. W. Wayne and J. C. Sharp. The use of high resolution microscope photometry in the discrimination of chromosome bands 163

Akira Hara. Continuous recording of microvascular dimensions with a rotating mirror microscope 169

J. Sanderson. Modified development to improve the performance of AR10 stripping emulsions for use with the more energetic isotopes 177

Seiei Aizu, Tsunetoshi Itoh and Toshi Yuki Yamamoto. A simple method for whole-cell preparation in electron microscopy 183

Douglas Wangensteen, Hans Bachofen and Ewald R. Weibel. Effects of glutaraldehyde or osmium tetroxide fixation on the osmotic properties of lung cells 189

Paul N. Marshall, William Galbraith, Erlinda F. Navarro and James W. Bacus. Microspectrophotometric studies of Romanowsky stained blood cells. II. Comparison of the performance of two standardized stains 197

M. I. Freitas, P. A. Giordano and G. Bottiroli. Improvement in microscope photometry by voltage to frequency conversion: analogue measurement and digital processing 211

Short Technical Note

L. G. Briarty and P. J. Fischer. A general-purpose microcomputer program for stereological data collection and processing 219

Rapid Publication

M. E. Farmer, R. W. Linton, P. Ingram, J. R. Sommer and J. D. Shelburne. Preferential sputtering effects in the ion microanalysis of biological tissues RP1

Part 3

Microscopy of Ceramics

Introduction 225
N. W. Jepps and T. F. Page. The etching behaviour of silicon carbide compacts 227
B. Salehpoor and P. M. Marquis. Factors affecting ion-beam thinning characteristics of ceramics 239
B. Wilshire. Microstructure dependence of the creep and creep-fracture behaviour of ceramic materials 249
P. M. Marquis. The crystallization of calcium aluminate glasses 257
R. Stevens and D. Gilroy. Electron microscopy of PbO_2 deposited on a titanium substrate 265
P. E. Gallant and R. J. Merigold. The characterization of surfaces of technical ceramics used in the synthetic fibres industry by microscopy 275
Marija Trontelj, D. Kolar and V. Kraševec. The microstructure of non-ohmic zinc oxide ceramics 285

Timothy L. O'Brien and Craig R. Baumrucker. Energy dispersive X-ray microanalysis of air dried casein micelles from bovine milk 291
I. M. Roberts and G. H. Duncan. A simple device for freeze-drying electron microscope specimens 295
K. Fackler, L. Klein and A. Hiltner. Polarizing light microscopy of intestine and its relationship to mechanical behaviour 305
Leonard F. Estis, Rudy H. Haschemeyer and Joseph S. Wall. Uranyl sulphate: a new negative stain for electron microscopy 313
Ladislav J. Kučera. Cutting wood specimens for observation in the scanning electron microscope 319

Short Technical Notes
S. A. Gaskell and A. D. Pearse. Measuring line length with the Quantimet 720 image analysing computer 327
R. J. Skaer. Cellular sieving by a natural, high-flux membrane. I. The separation of platelets from plasma 331
Harold E. Edgerton. Shadow photography: an aid to microscopy 335

Rapid Publication
J. Dubochet and A. W. McDowall. Vitrification of pure water for electron microscopy RP3